

REMARKS

This Response is submitted in reply to the Office Action dated December 16, 2010, and in accordance with the telephonic interview courteously granted on March 9, 2011. Claims 12 to 17 and 19 to 22 are pending in the present application. Claims 1 to 11 and 18 stand previously canceled. Claim 12 is the sole independent claim and is hereby amended. No new matter has been added by such amendments. Please charge Deposit Account No. 02-1818 for all payments due in connection with this Response.

The Office Action objected to Claim 12 based on formalities. Applicant has amended Claim 12 and submits that these amendments overcome this objection.

The Office Action rejected Claims 12, 13, 16, 19, 21 and 22 under 35 U.S.C. § 102(b) and stated such claims are anticipated by U.S. Patent No. 6,323,810 to Poilasne et al. ("Poilasne"). In view of the amendments made herein, Applicant respectfully disagrees with these rejections.

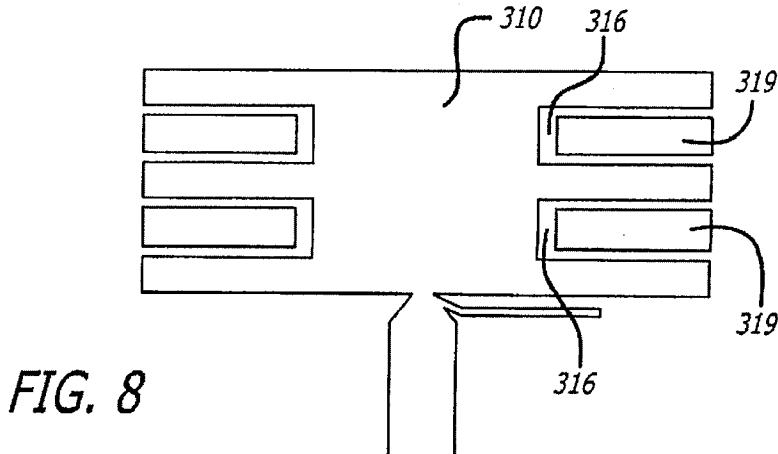
Amended independent Claim 12 includes, among other elements, "the planar patch antenna having a first side and a second side, the first side being adjacent to the second side . . . at least one of said plurality of parasitic transmitters which forms a bend includes: (a) a first three dimensional line-type portion that extends in a first dimension in the plane, the first three dimensional line-type portion running parallel to the first side; and (b) a second three dimensional line-type portion that extends in a second different dimension in the plane, the second three dimensional line-type portion running parallel to the second side, wherein conductor structures of the planar patch antenna are arranged as sheet-type conductor structures."

As discussed in the interview, the prior art of record does not disclose the combination of the foregoing elements.

More specifically, Poilasne discloses a multimode grounded finger patch antenna. The Abstract of Poilasne discloses:

[a] small, printed antenna provides high efficiency, good isolation and a broad working bandwidth. These characteristics are achieved with a patch antenna by placing a shunt to ground connected to the feeding point of the patch. This shunt comprises a line running along one edge of the patch. The patch dimensions can be adjusted, and in particular reduced, by changing the L and C characteristics of the patch. This is accomplished with arrays of slots defining corresponding arrays of fingers along the edges of the patch. Impedance matching is achieved by altering the dimensions of the slots

Fig. 8 of Poilasne (reproduced below) illustrates an approach for increasing capacitance.



Column 4, lines 35 to 37 of Poilasne disclose, with emphasis added:

[a]nother approach for increasing the capacitance is shown in FIG. 8. Here, parasitic islands 319 are formed within slots 316 in the same layer of conductive material as patch 310.

Page 3 of the Office Action stated that Poilasne teaches:

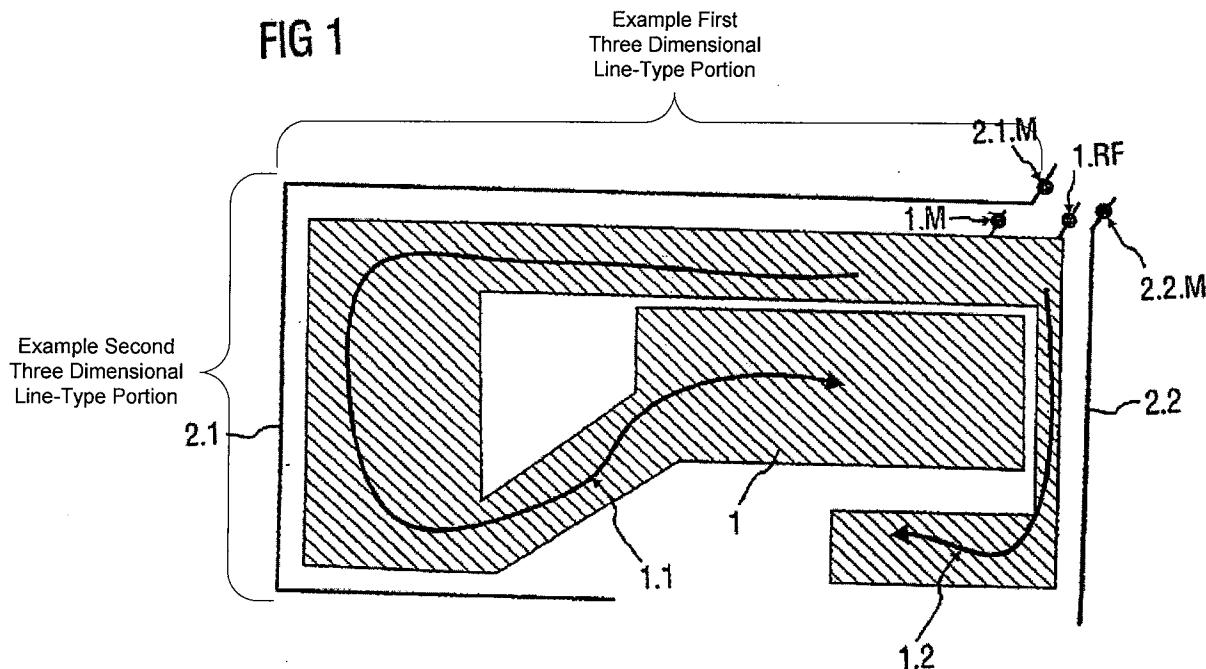
at least one of (any one of 319, fig. 8) said plurality of parasitic transmitters includes a first portion (longitudinal edge of 319, fig. 8) that extends in a first dimension in the plane and a second portion (lateral edge of 319, fig. 8) that extends in a second different dimension in the plane, wherein the first portion at least partially extends over a first adjacent side of the planar patch antenna (fig. 8) and the second portion at least partially extends over a second different adjacent side of the planar patch antenna, whereas the conductor structures of the planar patch antenna are arranged as sheet-type conductor structures (fig. 8).

In view thereof, it appears the Office Action interprets Poilasne's parasitic islands as the parasitic transmitters of the multiband antenna array of Claim 12. If the Office Action were to interpret one of Poilasne's parasitic islands as the at least one of the plurality of parasitic transmitters of Claim 12, Applicant submits that unlike the multiband antenna array of Claim 12, none of Poilasne's parasitic islands "forms a bend" and includes: (a) a first three dimensional line-type portion that extends in a first dimension in the plane, the first three dimensional line-type portion running parallel to the first side; and (b) a second three dimensional line-type portion that extends in a second different dimension in the plane, the second three dimensional line-type

portion running parallel to the second side, wherein conductor structures of the planar patch antenna are arranged as sheet-type conductor structures.”

By way of example, for Examiner’s convenience only, as illustrated below, in one example embodiment, a multiband antenna array includes a first three dimensional line-type portion and a second three dimensional line-type portion.

FIG 1



For at least these reasons, it is respectfully submitted that independent Claim 12 is patentably distinguished over Poilasne and in condition for allowance. Dependent Claims 13, 16, 19, 21 and 22 depend directly from amended independent Claim 12 and are also allowable for the reasons given with respect to Claim 12 and because of the additional features recited in these claims.

The Office Action rejected Claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Poilasne in view of European Patent Publication No. EP 1 067 627 A1 to Bosch (“Bosch”). Applicant respectfully submits Bosch fails to cure the deficiencies of Poilasne discussed above. Because Claims 14 is dependent on independent Claim 12, Applicant submits Claims 14 is patentable over the cited prior art for at least the same reasons discussed above, and for the additional patentable elements recited therein.

The Office Action rejected Claims 15 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Poilasne in view of U.S. Patent No. 6,680,705 to Tan (“Tan”). Applicant respectfully submits Tan fails to cure the deficiencies of Poilasne discussed above. Because Claims 15 and 17 are dependent on independent Claim 12, Applicant submits Claims 15 and 17 are patentable over the cited prior art for at least the same reasons discussed above, and for the additional patentable elements recited therein.

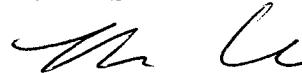
The Office Action rejected Claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Poilasne. Because Claim 20 is dependent on independent Claim 12, Applicant submits Claim 20 is patentable over Poilasne for at least the same reasons discussed above, and for the additional patentable elements recited therein.

An earnest endeavor has been made to place this application in condition for formal allowance, and allowance is courteously solicited. If the Examiner has any questions regarding this Response, Applicant respectfully requests that the Examiner contact the undersigned.

Respectfully submitted,

K&L GATES LLP

BY


Robert T. Clarke
Reg. No. 60,630
Customer No. 29177
Phone: (312) 781-6803

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